

AMENDMENTS TO THE CLAIMS

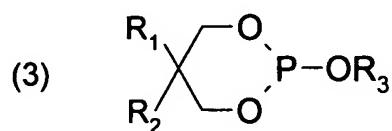
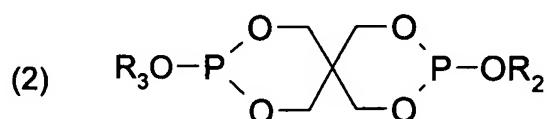
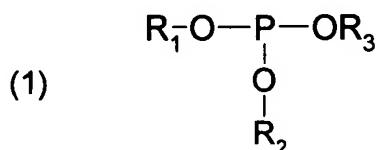
This listing of claims will replace all prior versions, and listings, of claims in the application:

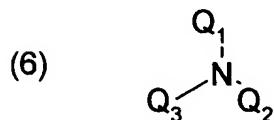
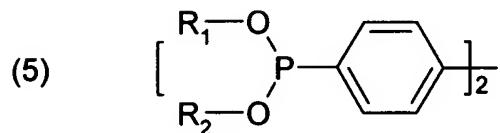
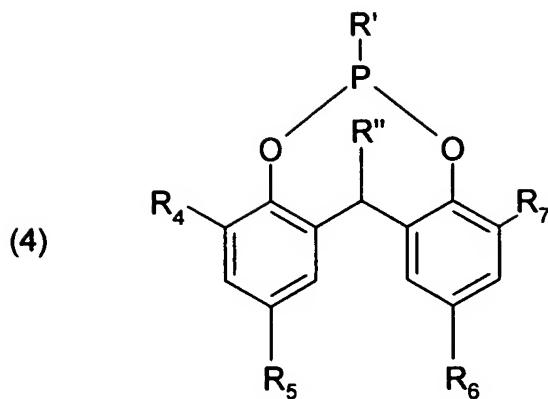
LISTING OF CLAIMS:

Claim 1 (currently amended): A polymer blend comprising a mixture of:

- (A) at least one polyester prepared by the reaction of at least one diol with at least one dicarboxylic acid or dialkyl ester thereof in the presence of a metallic catalyst;
- (B) at least one phosphorus-containing compound;
- (C) at least one hindered amine light stabilizer; and
- (D) at least one polycarbonate,

wherein the phosphorus-containing compound is selected from the formulas (1) - (6):





wherein

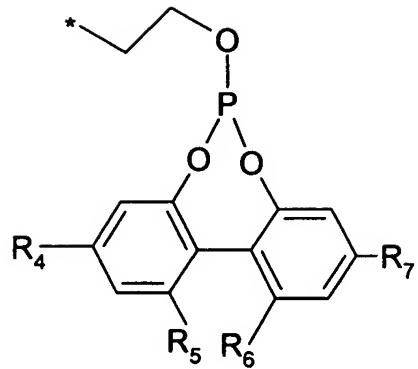
R_1 , R_2 and R_3 are independently selected from the group consisting of C_1 - C_{22} -alkyl, substituted C_1 - C_{22} -alkyl, C_3 - C_8 -cycloalkyl, substituted C_3 - C_8 -cycloalkyl, and heteroaryl;

R' is selected from the group consisting of halogen and OR_1 ;

R'' , R_4 , R_5 , R_6 , and R_7 are independently selected from the group consisting of hydrogen, C_1 - C_{22} -alkyl, substituted C_1 - C_{22} -alkyl, C_3 - C_8 -cycloalkyl, substituted C_3 - C_8 -cycloalkyl, heteroaryl, and aryl; and

each Q_1 , Q_2 and Q_3 group independently is radical A, wherein radical A has the following structure:

Radical A =



Claim 2 (canceled)

Claim 3 (previously presented): The polymer blend according to Claim 1 wherein the at least one polyester comprises:

- (1) diacid residues comprising at least 50 mole percent of terephthalic acid residues, cyclohexanedicarboxylic acid residues or a mixture thereof; and
- (2) diol residues comprising at least 50 mole percent of ethylene glycol residues, cyclohexanedimethanol residues, or a mixture thereof;

wherein the total of the diacid residues is equal to 100 mole percent and the total of the diol residues also is equal to 100 mole percent.

Claim 4 (currently amended): The polymer blend according to Claim 3 wherein the polyester comprises up to about 200 ppmw of Ti, Co, and/or or Mn residues, or combinations thereof.

Claim 5 (currently amended): A polymer blend comprising:

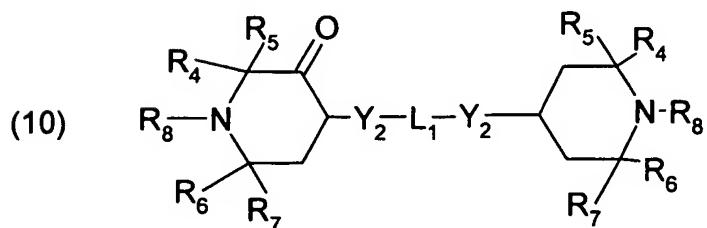
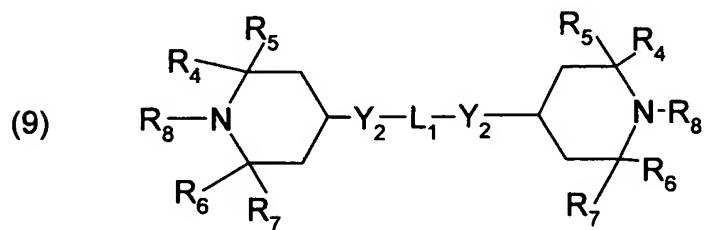
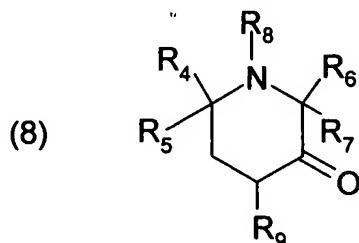
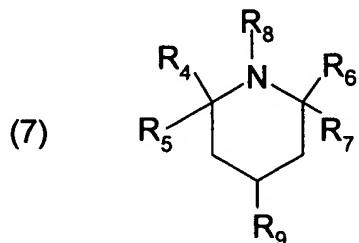
(A) at least one polyester comprising:

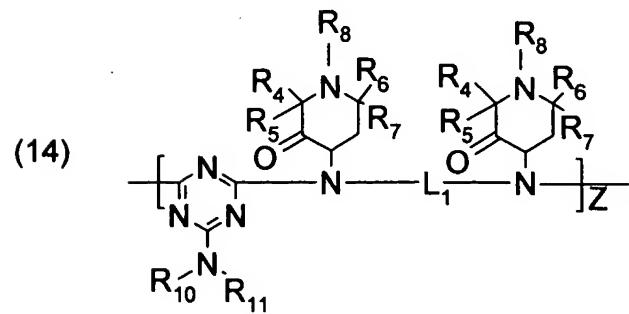
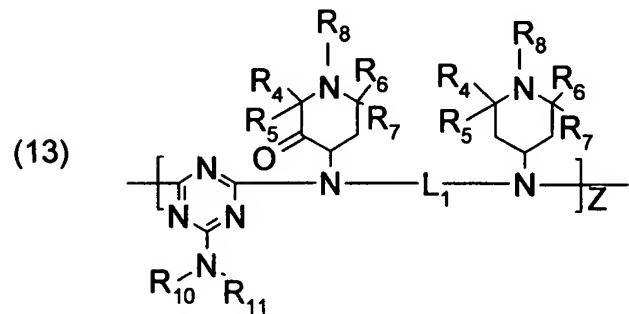
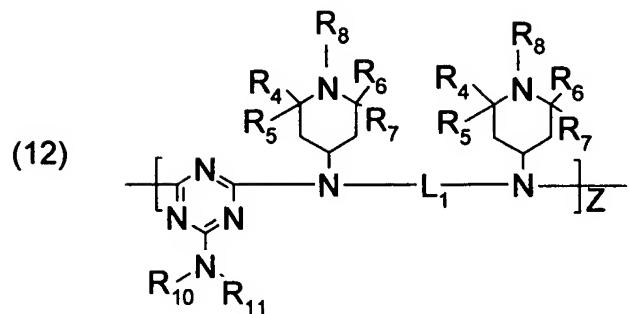
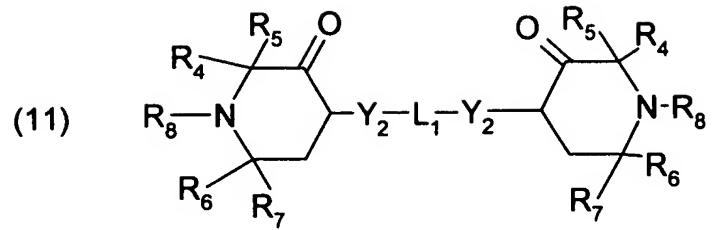
- (1) diacid residues comprising at least 50 mole percent of residue of a diacid selected from the group consisting of 1,4-cyclohexanedicarboxylic acid, terephthalic acid and isophthalic acid or a mixture thereof; and
- (2) diol residues comprising at least 50 mole percent of ethylene glycol residues, cyclohexanedimethanol residues, or a mixture thereof;

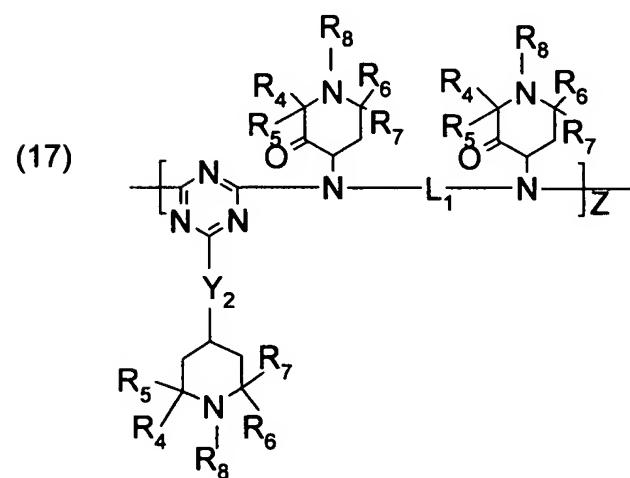
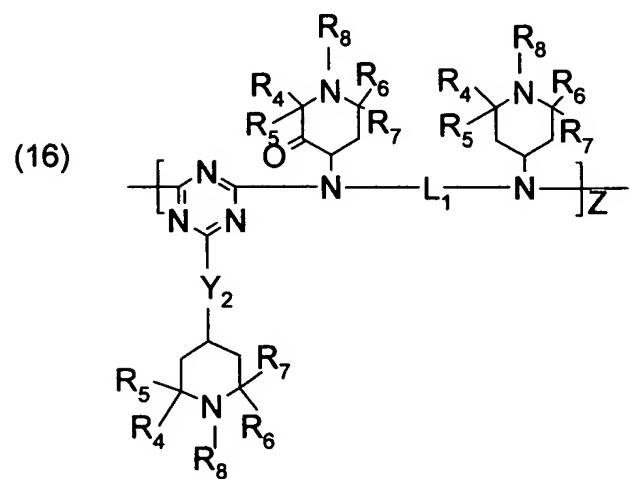
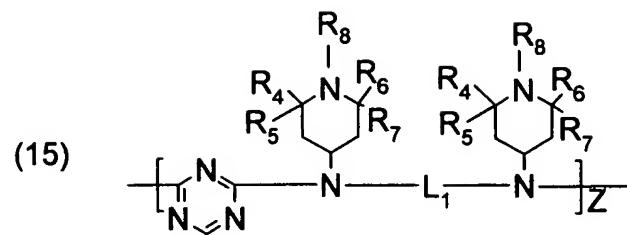
based on a total of 100 mole percent of diacid residues and a total of 100 mole percent of diol residues;

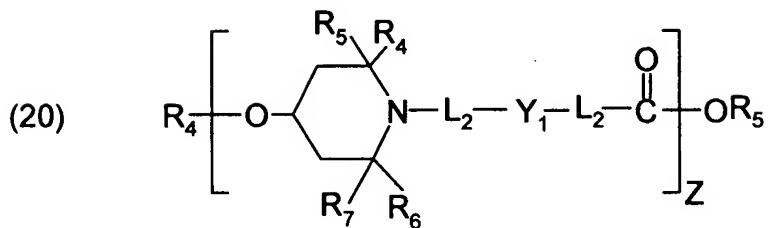
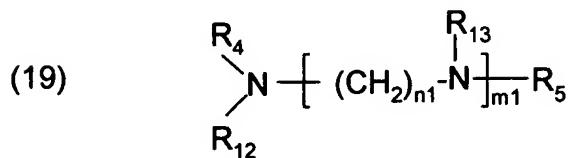
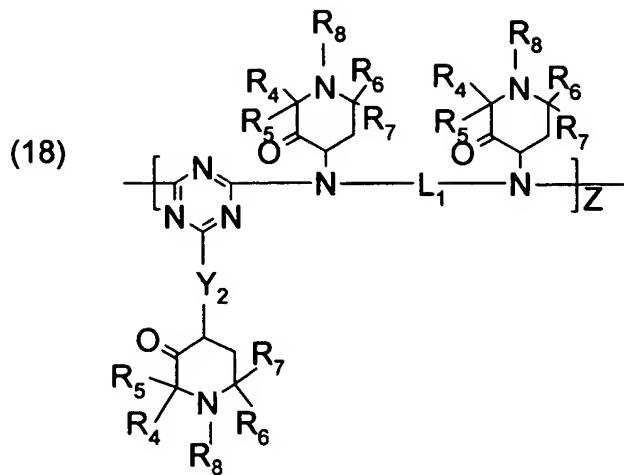
(B) 0.01 to 0.5 weight percent of at least one phosphorus-containing compound based on the total weight of the blend;

(C) 0.01 to 1.0 weight percent of at least one hindered amine light stabilizer based on the total weight of the blend, wherein the at least one hindered amine light stabilizer is selected from the following formulae:







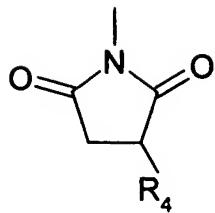


wherein

R_4 , R_5 R_6 , and R_7 are independently selected from the group consisting of hydrogen, C_1 - C_{22} -alkyl, substituted C_1 - C_{22} -alkyl, C_3 - C_8 -cycloalkyl, substituted C_3 - C_8 -cycloalkyl, heteroaryl, and aryl;

R_8 is selected from the group consisting of hydrogen, $-OR_6$, C_1 - C_{22} -alkyl, substituted C_1 - C_{22} -alkyl, C_3 - C_8 -cycloalkyl, and substituted C_3 - C_8 -cycloalkyl;

R_9 is selected from the group consisting of hydrogen, C_1 - C_{22} -alkyl, substituted C_1 - C_{22} -alkyl, C_3 - C_8 -cycloalkyl, substituted C_3 - C_8 -cycloalkyl, heteroaryl, aryl, $-Y_1-R_4$, and a succinimido group having the formula:



R₁₀ and R₁₁ are independently selected from the group consisting of hydrogen, C₁-C₂₂-alkyl, substituted C₁-C₂₂-alkyl, C₃-C₈-cycloalkyl, and substituted C₃-C₈-cycloalkyl; R₁₀ and R₁₁ collectively may represent a divalent group forming a ring with the nitrogen atom to which they are attached;

L₁ is a divalent linking group selected from the group consisting of C₂-C₂₂-alkylene, -(CH₂CH₂-Y₁)₁₋₃-CH₂CH₂-, C₃-C₈-cycloalkylene, arylene, and -CO-L₂-OC-;

L₂ is selected from the group consisting of C₁-C₂₂-alkylene, arylene, -(CH₂CH₂-Y₁)₁₋₃-CH₂CH₂-, and C₃-C₈-cycloalkylene;

Y₁ is selected from the group consisting of -OC(O)-, -NHC(O)-, -O-, -S-, and -N(R₄)-;

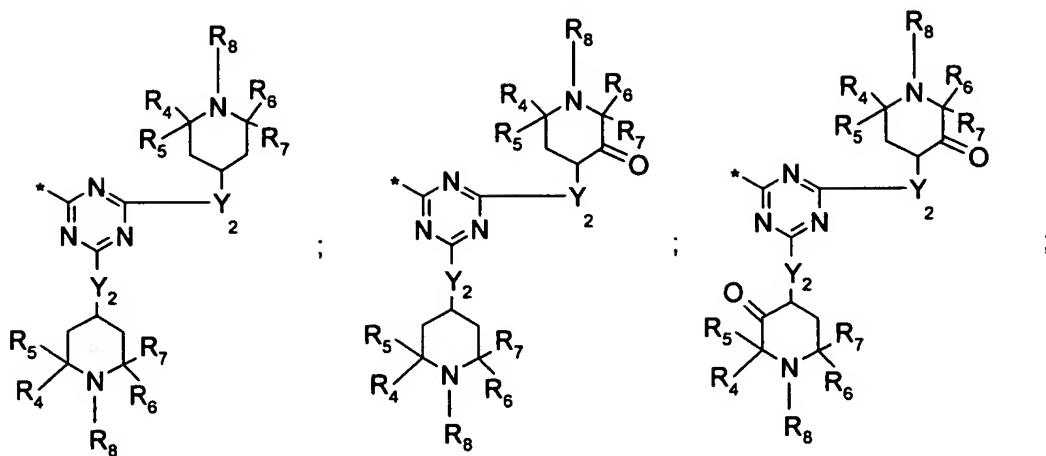
Y₂ is selected from the group consisting of -O- and -N(R₄)-;

Z is a positive integer of up to about 20;

m₁ is selected from 0 to about 10;

n₁ is a positive integer selected from 2 to about 12;

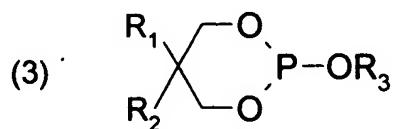
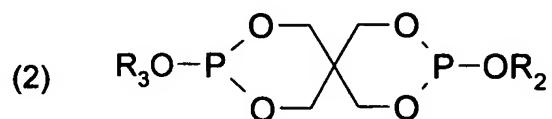
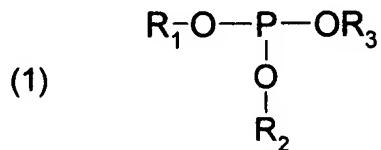
R₁₂ and R₁₃ are independently selected from the group consisting of hydrogen, C₁-C₂₂-alkyl, substituted C₁-C₂₂-alkyl, heteroaryl, aryl, and radical B wherein radical B is selected from the following structures:

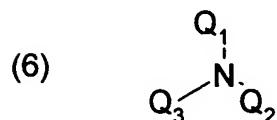
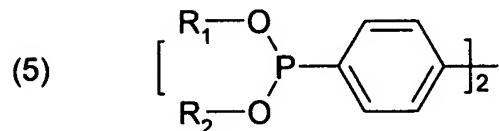
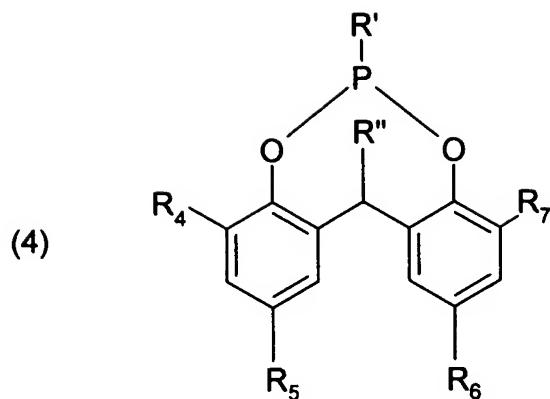


wherein * designates the position of attachment and wherein at least one of R₁₂ and R₁₃ is radical B; and

(D) at least one polycarbonate,

wherein the phosphorus-containing compound is selected from the formulas (1) - (6):





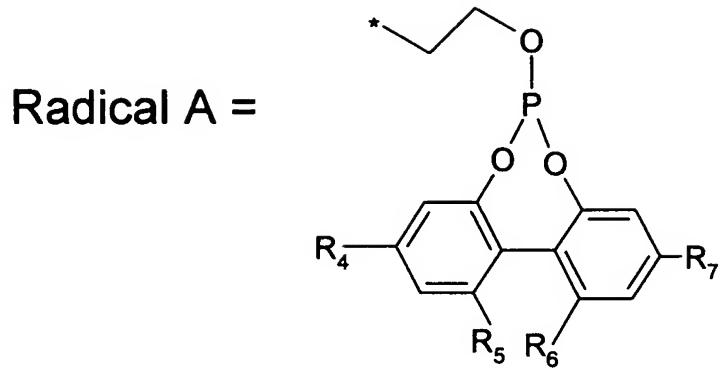
wherein

R_1 , R_2 and R_3 are independently selected from the group consisting of C_1 - C_{22} -alkyl, substituted C_1 - C_{22} -alkyl, C_3 - C_8 -cycloalkyl, substituted C_3 - C_8 -cycloalkyl, and heteroaryl;

R' is selected from the group consisting of halogen and OR_1 ;

R'' , R_4 , R_5 , R_6 , and R_7 are independently selected from the group consisting of hydrogen, C_1 - C_{22} -alkyl, substituted C_1 - C_{22} -alkyl, C_3 - C_8 -cycloalkyl, substituted C_3 - C_8 -cycloalkyl, heteroaryl, and aryl; and

each Q_1 , Q_2 and Q_3 group independently is radical A, wherein radical A has the following structure:



Claim 6 (currently amended): The polymer blend of Claim 5 wherein R₈ is hydrogen, C₁-C₂₂-alkyl, substituted C₁-C₂₂-alkyl, C₃-C₈-cycloalkyl, or substituted C₃-C₈-cycloalkyl or alkyl.

Claim 7 (previously presented): The polymer blend of Claim 6 wherein the polyester of component (A) has an inherent viscosity of about 0.4 to 1.2 dL/g measured at 25°C in a 60/40 ratio by weight of phenol/tetrachloroethane and comprises:

- (1) diacid residues comprising about 80 to 100 mole percent of terephthalic acid residues and about 0 to 20 mole percent of isophthalic acid residues; and
- (2) diol residues comprising about 40 to 100 mole percent of 1,4-cyclohexanedimethanol residues and 0 to about 60 mole percent of ethylene glycol residues and component (B) comprises 0.05 to 0.5 weight percent of at least one phosphorus-containing compound and component (C) comprises 0.05 to 1.0 weight percent of at least one hindered amine light stabilizer based on the total weight of the composition.

Claim 8 (previously presented): The polymer blend of Claim 7 wherein the polyester of component (A) has an inherent viscosity of about 0.4 to 0.8 dL/g measured at 25°C in a 60/40 ratio by weight of phenol/tetrachloroethane and comprises:

- (1) diacid residues comprising about 80 to 100 mole percent of terephthalic acid residues and about 0 to 20 mole percent of isophthalic acid residues; and

(2) diol residues comprising about 55 to 80 mole percent of 1,4-cyclohexanedimethanol residues and about 20 to about 45 mole percent of ethylene glycol residues.

Claim 9 (previously presented): The polymer blend of Claim 5 wherein the polyester of component (A) has an inherent viscosity of about 0.4 to 0.8 dL/g measured at 25°C in a 60/40 ratio by weight of phenol/tetrachloroethane and comprises:

- (1) diacid residues comprising about 65 to 83 mole percent of terephthalic acid residues and about 35 to 17 mole percent of isophthalic acid residues; and
- (2) diol residues comprising about 80 to 100 mole percent of 1,4-cyclohexanedimethanol residues and about 0 to about 20 mole percent of ethylene glycol residues.

Claim 10 (previously presented): The polymer blend of Claim 9 wherein the polyester of component (A) comprises:

- (1) diacid residues comprising about 70 to 80 mole percent of terephthalic acid residues and about 30 to 20 mole percent of isophthalic acid residues; and
- (2) diol residues comprising about 90 to 100 mole percent of 1,4-cyclohexanedimethanol residues and 0 to about 10 mole percent of ethylene glycol residues.

Claim 11 (previously presented): The polymer blend of Claim 5 wherein the polyester of component (A) has an inherent viscosity of about 0.4 to 1.2 dL/g measured at 25°C in a 60/40 ratio by weight of phenol/tetrachloroethane and comprises:

- (1) diacid residues comprising at least about 80 mole percent of 1,4-cyclohexanedicarboxylic acid residues; and
- (2) diol residues comprising at least about 80 mole percent of 1,4-cyclohexanedimethanol residues.

Claim 12 (previously presented): The polymer blend of Claim 11 wherein the polyester of component (A) comprises:

- (1) diacid residues comprising about 90 to 100 mole percent of 1,4-cyclohexanedicarboxylic acid residues; and

(2) diol residues comprising about 90 to 100 mole percent of 1,4-cyclohexanedimethanol residues.

Claim 13 (previously presented): The polymer blend of Claim 12 wherein the polyester of component (A) comprises:

(1) diacid residues comprising about 100 mole percent of 1,4-cyclohexanedicarboxylic acid residues; and

(2) diol residues comprising about 100 mole percent of 1,4-cyclohexanedimethanol residues.

Claim 14 (currently amended): A polymer blend comprising a mixture of the following:

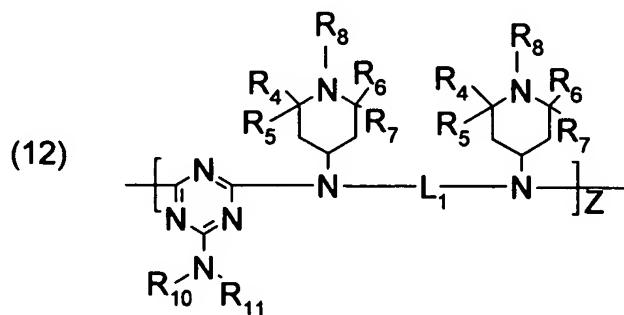
(A) at least one polyester having an inherent viscosity of about 0.4 to 1.2 dL/g measured at 25°C in a 60/40 ratio by weight of phenol/tetrachloroethane and comprises comprising:

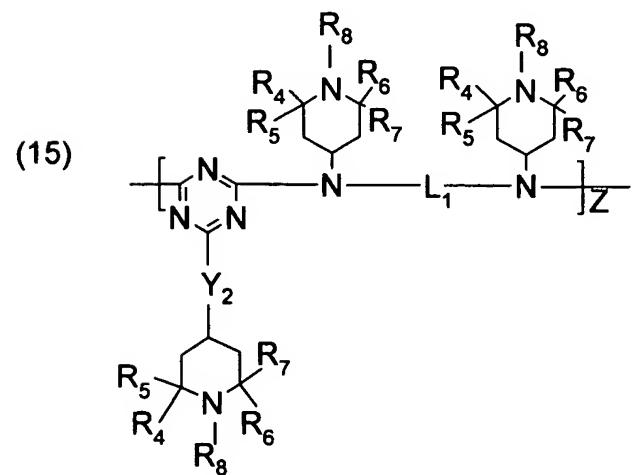
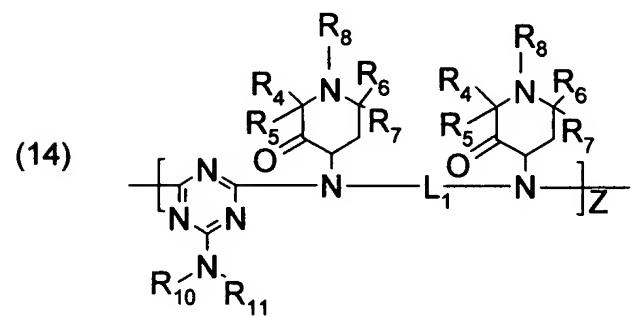
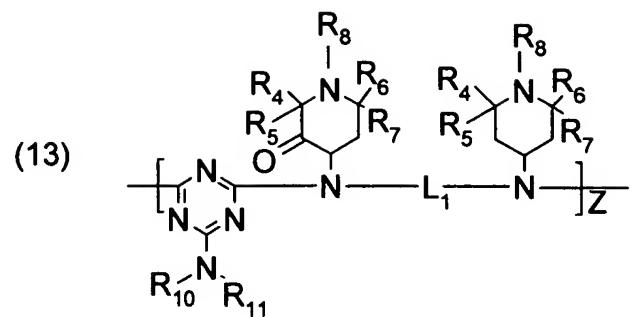
(1) diacid residues comprising at least about 50 mole percent of residue of a diacid selected from the group consisting of 1,4-cyclohexanedicarboxylic acid, terephthalic acid and isophthalic acid or a mixture thereof; and

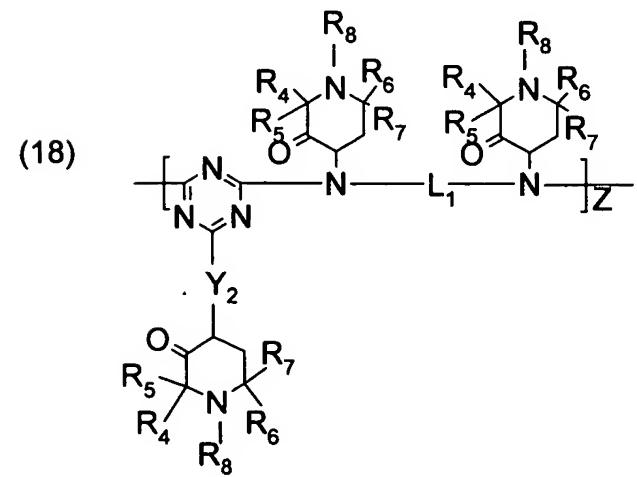
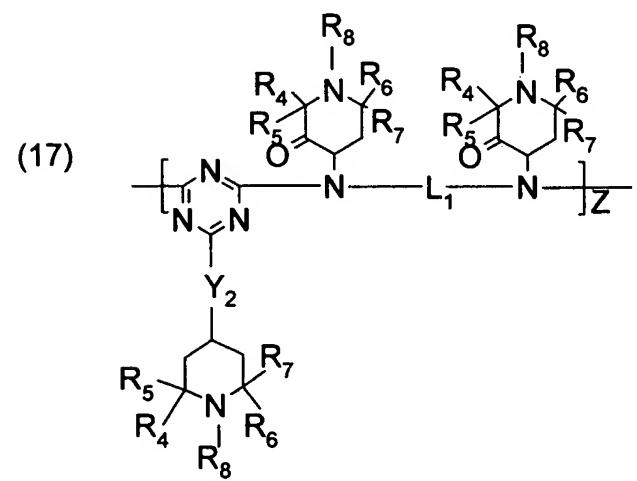
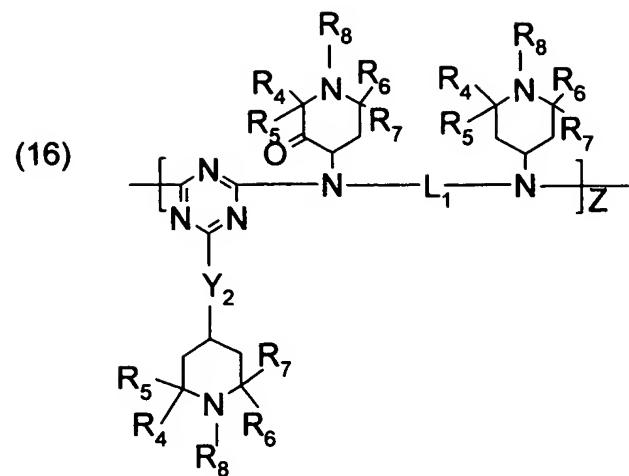
(2) diol residues comprising at least about 50 mole percent of ethylene glycol residues, cyclohexanedimethanol residues, or a mixture thereof;

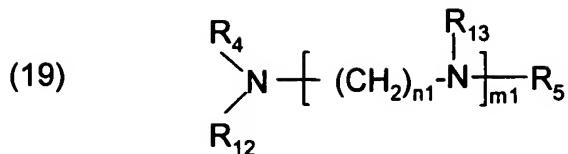
(B) about 0.1 to 0.5 weight percent of at least one phosphorus-containing compound based on the total weight of the composition;

(C) about 0.1 to 1.0 weight percent of at least one hindered amine light stabilizer based on the total weight of the composition having the formulas:









wherein

R_4 , R_5 , R_6 , and R_7 are independently selected from the group consisting of hydrogen, C_1 - C_{22} -alkyl, substituted C_1 - C_{22} -alkyl, C_3 - C_8 -cycloalkyl, substituted C_3 - C_8 -cycloalkyl, heteroaryl, and aryl;

R_8 is selected from the group consisting of hydrogen, $-OR_6$, C_1 - C_{22} -alkyl, substituted C_1 - C_{22} -alkyl, C_3 - C_8 -cycloalkyl, and substituted C_3 - C_8 -cycloalkyl;

R_{10} and R_{11} are independently selected from the group consisting of hydrogen, C_1 - C_{22} -alkyl, substituted C_1 - C_{22} -alkyl, C_3 - C_8 -cycloalkyl, and substituted C_3 - C_8 -cycloalkyl; R_{10} and R_{11} collectively may represent a divalent group forming a ring with the nitrogen atom to which they are attached;

L_1 is a divalent linking group selected from the group consisting of C_2 - C_{22} -alkylene, $-(CH_2CH_2Y_1)_{1-3}CH_2CH_2-$, C_3 - C_8 -cycloalkylene, arylene, and $-CO-L_2-OC-$;

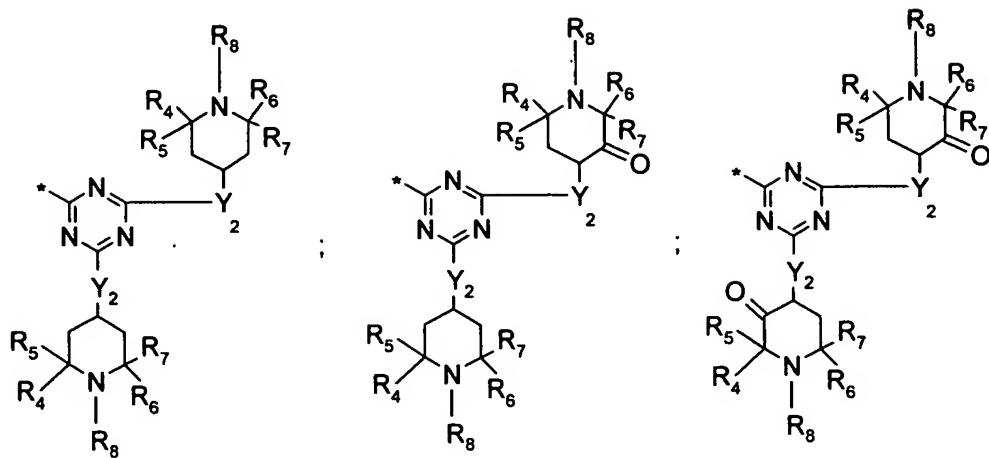
Y_2 is selected from the group consisting of $-O-$ and $-N(R_4)-$;

Z is a positive integer of up to about 20;

m_1 is selected from 0 to about 10;

n_1 is a positive integer selected from 2 to about 12;

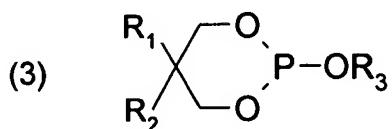
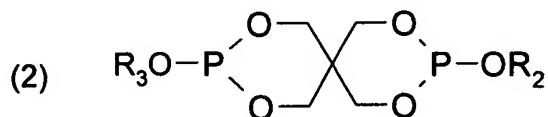
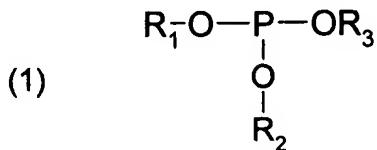
R_{12} and R_{13} are independently selected from the group consisting of hydrogen, C_1 - C_{22} -alkyl, substituted C_1 - C_{22} -alkyl, heteroaryl, aryl, and radical B wherein radical B is selected from the following structures:

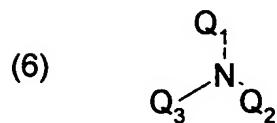
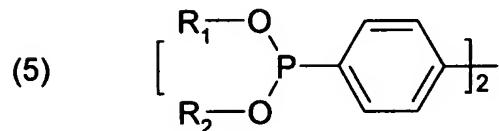
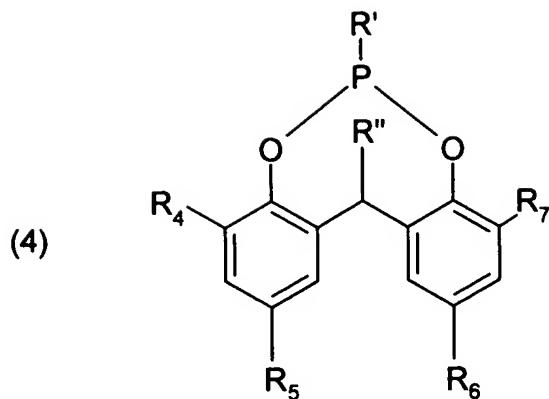


wherein * designates the position of attachment and wherein at least one of R₁₂ and R₁₃ is radical B; and

(D) at least one polycarbonate,

wherein the phosphorus-containing compound is selected from the formulas (1) - (6):





wherein

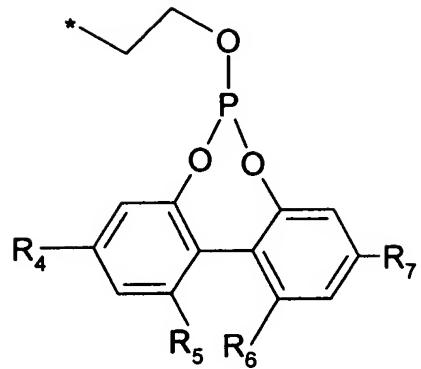
R_1 , R_2 and R_3 are independently selected from the group consisting of C_1 - C_{22} -alkyl, substituted C_1 - C_{22} -alkyl, C_3 - C_8 -cycloalkyl, substituted C_3 - C_8 -cycloalkyl, and heteroaryl;

R' is selected from the group consisting of halogen and OR_1 ;

R'' , R_4 , R_5 , R_6 , and R_7 are independently selected from the group consisting of hydrogen, C_1 - C_{22} -alkyl, substituted C_1 - C_{22} -alkyl, C_3 - C_8 -cycloalkyl, substituted C_3 - C_8 -cycloalkyl, heteroaryl, and aryl; and

each Q_1 , Q_2 and Q_3 group independently is radical A, wherein radical A has the following structure:

Radical A =



Claim 15 (currently amended): The polymer blend of Claim 14 wherein R₈ is hydrogen, C₁-C₂₂-alkyl, substituted C₁-C₂₂-alkyl, C₃-C₈-cycloalkyl, or substituted C₃-C₈-cycloalkyl or alkyl for the hindered amine light stabilizer.

Claim 16 (original): The polymer blend of Claim 14 wherein the at least one hindered amine light stabilizer contains an sp^3 -hybridized nitrogen atom that is not contained within the substituted piperidine ring.

Claim 17 (original): The polymer blend of Claim 14 wherein the at least one hindered amine light stabilizer has a weight average molecular weight of greater than 1000.

Claim 18 (previously presented): The polymer blend of Claim 14 wherein the phosphorus-containing compound is selected from the group consisting of bis(2,4-di-t-butylphenyl)pentaerythritol diphosphite, distearyl pentaerythritol diphosphite, and bis-(2,4-dicumylphenyl) pentaerythritol diphosphite.

Claim 19 (previously presented): The polymer blend of Claim 18 wherein said phosphorus-containing compound is distearyl pentaerythritol diphosphite.

Claim 20 (previously presented): The polymer blend of Claim 18 comprising from about 0.15 to 0.35 weight percent of the phosphorus-containing compound and from 0.1 to about 0.75 weight percent of the hindered amine light stabilizer, based on the total weight of the polymer blend.

Claim 21 (previously presented): The polymer blend of Claim 14 wherein the polyester of component (A) has an inherent viscosity of about 0.4 to 0.8 dL/g measured at 25°C in a 60/40 ratio by weight of phenol/tetrachloroethane and comprises:

- (1) diacid residues comprising about 80 to 100 mole percent of terephthalic acid residues and about 0 to 20 mole percent of isophthalic acid residues; and
- (2) diol residues comprising about 40 to 100 mole percent of 1,4-cyclohexanedimethanol residues and about 0 to about 60 mole percent of ethylene glycol residues.

Claim 22 (previously presented): The polymer blend of Claim 14 wherein the polyester of component (A) has an inherent viscosity of about 0.4 to 0.8 dL/g measured at 25°C in a 60/40 ratio by weight of phenol/tetrachloroethane and comprises:

- (1) diacid residues comprising about 80 to 100 mole percent of terephthalic acid residues and about 0 to 20 mole percent of isophthalic acid residues; and
- (2) diol residues comprising about 55 to 80 mole percent of 1,4-cyclohexanedimethanol residues and about 20 to about 45 mole percent ethylene glycol residues.

Claim 23 (previously presented): The polymer blend of Claim 14 wherein the polyester of component (A) has an inherent viscosity of about 0.4 to 0.8 dL/g measured at 25°C in a 60/40 ratio by weight of phenol/tetrachloroethane and comprises:

- (1) diacid residues comprising about 65 to 83 mole percent of terephthalic acid residues and about 35 to 17 mole percent of isophthalic acid residues; and
- (2) diol residues comprising about 80 to 100 mole percent of 1,4-cyclohexanedimethanol residues and about 0 to about 20 mole percent of ethylene glycol residues.

Claim 24 (previously presented): The polymer blend of Claim 23 wherein the polyester of component (A) comprises:

- (1) diacid residues comprising about 70 to 80 mole percent of terephthalic acid residues and about 30 to 20 mole percent of isophthalic acid residues; and
- (2) diol residues comprising about 90 to 100 mole percent of 1,4-cyclohexanedimethanol residues and 0 to about 10 mole percent of ethylene glycol residues.

Claim 25 (previously presented): The polymer blend of Claim 14 wherein the polyester of component (A) has an inherent viscosity of about 0.4 to 1.2 dL/g measured at 25°C in a 60/40 ratio by weight of phenol/tetrachloroethane and comprises:

- (1) diacid residues comprising at least about 80 mole percent of 1,4-cyclohexanedicarboxylic acid residues; and
- (2) diol residues comprising at least about 80 mole percent of 1,4-cyclohexanedimethanol residues.

Claim 26 (previously presented): The polymer blend of Claim 25 wherein the polyester of component (A) comprises:

- (1) diacid residues comprising about 90 to 100 mole percent of 1,4-cyclohexanedicarboxylic acid residues; and
- (2) diol residues comprising about 90 to 100 mole percent of 1,4-cyclohexanedimethanol residues.

Claim 27 (previously presented): The polymer blend of Claim 26 wherein the polyester of component (A) comprises:

- (1) diacid residues comprising about 100 mole percent of 1,4-cyclohexanedicarboxylic acid residues; and
- (2) diol residues comprising about 100 mole percent of 1,4-cyclohexanedimethanol residues.

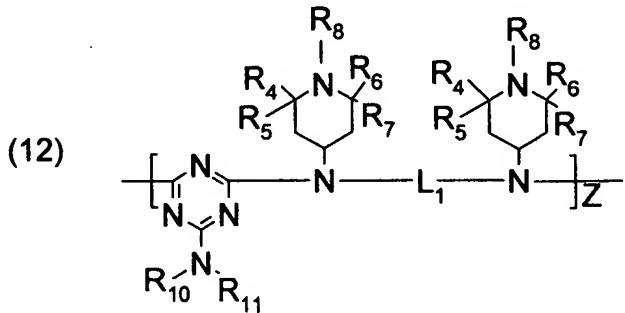
Claim 28 (previously presented): A polymer blend comprising a mixture of:

(A) at least one polyester having an inherent viscosity of about 0.4 to 1.2 dL/g measured at 25°C in a 60/40 ratio by weight of phenol/tetrachloroethane and comprises:

- (1) diacid residues comprising at least about 50 mole percent of terephthalic acid residues, cyclohexanedicarboxylic acid residues or a mixture thereof; and
- (2) diol residues comprising at least about 50 mole percent of ethylene glycol residues, cyclohexanedimethanol residues, or a mixture thereof; wherein the total mole percentages of diacid residues is 100 mole percent and the total mole percentages of diol residues is 100 mole percent; and

(B) about 0.1 to 0.5 weight percent of at least one phosphorus-containing compound selected from the group of bis(2,4-di-t-butylphenyl)pentaerythritol diphosphite, distearyl pentaerythritol diphosphite, and bis-(2,4-dicumylphenyl) pentaerythritol diphosphite, based on the total weight of the blend;

(C) about 0.1 to 1.0 weight percent of at least one hindered amine light stabilizer based on the total weight of the composition having the formula:



wherein R₄= R₅= R₆= R₇= R₈=methyl, (R₁₀)(R₁₁)N- collectively represent morpholino, L₁ is C₁ to C₆ alkylene, and Z is 1 to 6; and

(D) at least one polycarbonate.

Claim 29 (previously presented): The polymer blend of Claim 28 comprising from about 0.15 to 0.35 weight percent of the phosphorus-containing compounds and from 0.1 to about 0.75 weight percent of the hindered amine light stabilizer, based on the total weight of the polymer blend.

Claim 30 (currently amended): The polymer blend according to Claim 28 wherein the polyester of component (A) comprises:

- (1) diacid residues comprising about 80 to 100 mole percent of terephthalic acid residues [[,]] and about 0 to 20 mole percent of isophthalic acid residues; and
- (2) diol residues comprising about 55 to 80 mole percent of 1,4-cyclohexanedimethanol residues and about 20 to 45 mole percent of ethylene glycol residues;

wherein the total of the diacid residues is equal to 100 mole percent and the total of the diol residues also is equal to 100 mole percent.

Claim 31 (currently amended): The polymer blend according to Claim 28 wherein the polyester of component (A) comprises:

- (1) diacid residues comprising about 70 to 80 mole percent of terephthalic acid residues [[,]] and about 30 to 20 mole percent of isophthalic acid residues; and
- (2) diol residues comprising about 90 to 100 mole percent of 1,4-cyclohexanedimethanol residues and about 0 to 10 mole percent of ethylene glycol residues;

wherein the total of the diacid residues is equal to 100 mole percent and the total of the diol residues also is equal to 100 mole percent.

Claim 32 (previously presented): The polymer blend according to Claim 28 wherein the polyester of component (A) comprises:

- (1) diacid residues comprising at least about 90 mole percent of 1,4-cyclohexanedicarboxylic acid residues; and
- (2) diol residues comprising at least about 90 mole percent of 1,4-cyclohexanedimethanol residues;

wherein the total of the diacid residues is equal to 100 mole percent and the total of the diol residues also is equal to 100 mole percent.

Claim 33 (previously presented): The polymer blend of Claim 28 wherein said phosphorus-containing compound is distearyl pentaerythritol diphosphite.

Claims 34-67 (canceled)

Claim 68 (previously presented): The polymer blend of claim 1 wherein the polycarbonate is derived from bisphenol A.

Claim 69 (previously presented): The polymer blend of claim 5 wherein the polycarbonate is derived from bisphenol A.

Claim 70 (previously presented): The polymer blend of claim 14 wherein the polycarbonate is derived from bisphenol A.

Claim 71 (previously presented): The polymer blend of claim 28 wherein the polycarbonate is derived from bisphenol A.

Claim 72 (previously presented): A polymer blend comprising:

- (A) at least one polyester;
- (B) at least one phosphorus-containing compound;
- (C) at least one hindered amine light stabilizer; and
- (D) at least one polycarbonate,

wherein the phosphorus-containing compound and the hindered amine light stabilizer are added to the blend via separate concentrates.